What is claimed is:

1. An intravenous lead comprising:

an elongate flexible lead body made of an electrically insulative material, the lead body having a proximal end and a distal end;

at least one lumen extending through the lead body from the proximal end toward the distal end, the at least one lumen having a first opening through the proximal end and a second opening through the distal end;

a conductive member extending through the lead body from the proximal end toward the distal end of the lead body;

at least one electrode electrically coupled to the conductive member; and

a hemostasis mechanism comprising a polymer membrane operably coupled with the at least one lumen.

2. The lead as recited in claim 1, wherein the hemostasis mechanism is located near the distal end of the lead.

3. The lead as recited in claim 2, wherein the electrode is located near the distal end of the lead body and the hemostasis mechanism is located distal of the electrode.

4. The lead as recited in claim 1, wherein the hemostasis mechanism is disposed within the lead lumen.

5. The lead as recited in claim 1, wherein the hemostasis mechanism is attached to and carried by the lead.

6. The lead as recited in claim 1, wherein the hemostasis mechanism further comprises a housing in which the polymer membrane is disposed.

7. The lead as recited in claim 6, wherein the housing is tubular.

8. The lead as recited in claim 6, wherein the housing is comprised of silicone rubber or polyurethane or hydrogel.

9. The lead as in claim 8, wherein the housing is adhesively bonded to an interior surface of the lead.

10. The lead as recited in claim 6, wherein the housing is comprised of titanium.

11. The lead as recited in claim 10, wherein the housing is laser welded to the lead proximal to an end of the electrode.

12. The lead as recited in claim 10, wherein the housing is adhesively bonded to the lead proximal to an end of the electrode.

13. The lead as recited in claim 6, wherein the housing further comprises an indentation constructed and arranged to mate with the lead body.

14. The lead as recited in claim 13, wherein the indentation is located at the proximal end of the housing and defines a proximally facing annular shoulder which meets an exterior portion of the distal end of the lead body.

15. The lead as recited in claim 6, wherein the housing comprises an annular recessed area wherein the polymer membrane is held.

16. The lead as recited in claim 6, wherein the polymer membrane is held within the housing by an interference fit.

17. The lead as recited in claim 6, wherein the polymer membrane is adhesively bonded within the housing.

18. The lead as recited in claim 1, wherein the hemostasis mechanism includes a valve.

19. The lead as recited in claim 18, wherein the valve is comprised of silicone.

20. The lead as recited in claim 19, wherein the valve is a bicusp valve.

21. The lead as recited in claim 19, wherein the valve is a tricusp valve.

22. The lead as recited in claim 19, wherein the valve is a quad cusp valve.

23. The lead as recited in claim 1, wherein the lumen thereof is filled with a sterile fluid, maintained in the lumen by a hydraulic lock provided by the hemostasis membrane.

24. The lead as recited in claim 1, wherein the hemostasis mechanism is removably attached to the lead and is disposable.

25. An intravenous lead comprising:

an elongate flexible electrically insulative lead body having a proximal end, a distal end, and a lumen extending therethrough, the lumen having a first proximal end opening and a second distal end opening;

a conductive member extending through the lead body from the proximal end toward the distal end of the lead body;

an electrode electrically coupled to the conductive member; and

a polymer membrane operably coupled with the lead lumen at the proximal

end of the lead body.

26. An intravenous lead comprising:

an elongate flexible lead body made of an electrically insulative material, the lead body having a proximal end and a distal end and being adapted for implantation on or about the left side of the heart, the lead body having an interior portion defining a lumen extending through the lead body from the proximal end toward the distal end, the lead body having a first proximal end opening and a second distal end opening;

a conductive member extending through the lead body from the proximal end toward the distal end of the lead body;

an electrode located near the distal end of the lead body, the electrode electrically coupled to the conductive member; and

a hemostasis mechanism operably coupled with the lead and located near the proximal end of the lead, the hemostasis mechanism comprising a polymer membrane.

27. The lead as recited in claim 26, wherein the hemostasis mechanism is disposed within the lead lumen.

28. The lead as recited in claim 26, wherein the lead is an over-the-wire left ventricular lead having an atraumatic tip.

29. The lead as recited in claim 26, wherein the polymer membrane is comprised of silicone rubber or polyurethane or a hydrogel.

30. The lead as recited in claim 26 further comprising a terminal pin, the hemostasis mechanism attached to and extending from the terminal pin.

31. The lead as recited in claim 26 further comprising a terminal pin, wherein the hemostasis mechanism is integral with and disposed within the terminal pin.

32. The lead as recited in claim 31 further comprising a port, and wherein the hemostasis mechanism further comprises a grommet, the hemostasis mechanism being removably connected to the terminal pin by the grommet.

33. The lead as recited in claim 26, wherein the polymer membrane defines at least one hole to allow penetration of the membrane with a needle or a guide wire.

34. The lead as recited in claim 26, wherein the polymer membrane defines at least one slit adapted to allow penetration of the membrane with a needle or a guide wire.

35. A hemostasis mechanism adapted for use with an implantable intravenous lead, the hemostasis mechanism comprising a tubular housing having a polymer membrane located therein.

36. The hemostasis mechanism of claim 35, wherein the membrane comprises a valve.

37. The hemostasis mechanism of claim 35, wherein the polymer membrane is disposed at the proximal end of the lead body.

38. A method comprising:

providing an over-the-wire left ventricular lead comprising a lead body having a proximal end, a distal end and a terminal pin at the proximal end thereof, the lead body having an interior portion defining a lumen therethrough;

providing a hemostasis mechanism comprising a housing with a polymer

membrane therein, the polymer membrane defining at least one aperture for a needle or guide wire to penetrate the polymer membrane;

attaching the hemostasis mechanism to the lead by attaching the housing to the terminal pin;

inserting a needle in the at least one aperture of the membrane and filling the lead lumen with a sterile fluid;

withdrawing the needle from the membrane, whereby the polymer membrane closes sufficiently to maintain a hydraulic lock on the fluid in the lumen;

passing a guide wire through the membrane and inserting the guide wire into the lead lumen; and

deploying the lead, whereby the column of saline is maintained in the lead lumen by the membrane, the column of sterile fluid preventing blood from entering the lead lumen.

39. The method of claim 38, wherein deploying the lead includes deploying the lead on the left side of a heart.